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Optical-fibre lighting system for indoor or exterior lighting - has light emitter of light source e.g lamp in which length or distance between electrodes is made 3 mm or less

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Addnl.Data: ASAI II GLASS CO LTD

(ASAG)

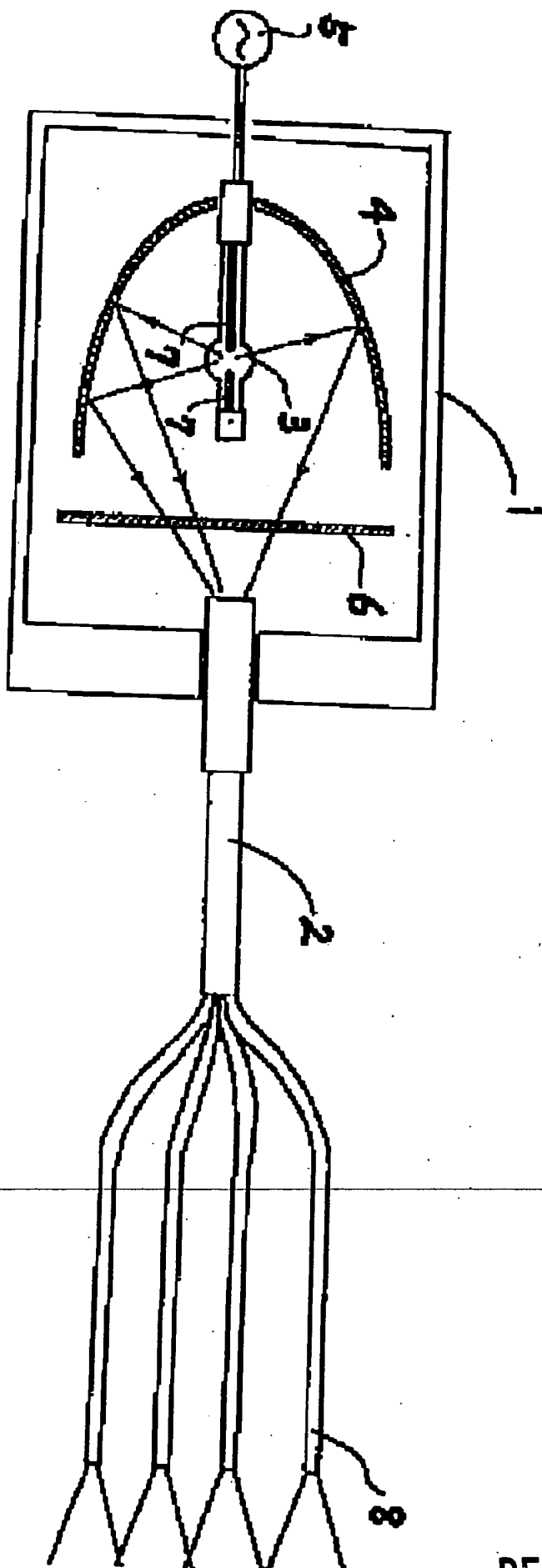
The system includes two or more optical fibres that transmit a light from a light source e.g. a lamp (3). A reflective mirror (4) condenses the light received from the lamp. The optical fibres are bundled together and considered as a simple pillar-like optical-fibre bundle (2).

The dia. of the optical-fiber bundle is made 8-12 mm. The length of the lamp light emitter, which is a distance between the electrodes, is made 3 mm or less.

USE/ADVANTAGE - For fields that needs uniform lighting e.g. in microscope lighting, charged-coupled device camera lighting. Use as complete lighting e.g. in indoor and outdoor lighting. Provides switching that is simple and can be easily maintained. Prevents optical fibre degradation with light source heat. Enables use as signal light e.g. at upper layers building roof, tower end, lighting in tank, explosion-protection area lighting, underwater lighting. (5pp Dwg.No.1/1)

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# PATENT ABSTRACTS OF JAPAN

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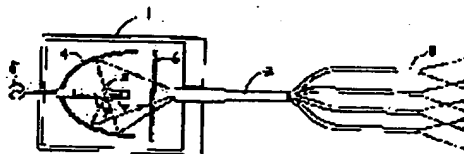
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## (54) LIGHTING SYSTEM USING OPTICAL FIBER

### (57)Abstract:

**PURPOSE:** To provide an optical fiber lighting system usable as a full-fledged one by binding two or more optical fibers to form a roughly cylindrical optical fiber bundle of which the diameter and the length of the light emitting section are specified.

**CONSTITUTION:** The light source box 1 includes a light source lamp 3, an elliptic reflecting mirror 4, a power source 5 and a filter 6. The lamp 3 lights by the discharge between the electrodes 7 and the light is reflected by the reflecting mirror 4 to be concentrated at the incidence part of the optical fiber bundle 2. It is required for the length of the light emitting section of the lamp 3 or the interelectrode distance (arc length) to be less than 3mm so as to efficiently introduce the light to the cylindrical fiber bundle 2 of 8 to 12mm in diameter. It is also desirable for improving the light transmission efficiency to use an interelectrode distance as short as possible. These methods allow illumination covering more than ten spots even using one light source although conventional optical fiber illumination systems illuminate only several spots because of their small luminous energy.



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